PATENT
Response to Final Office Action
Expedited Procedure

REMARKS

Applicant has studied the Final Office Action dated December 30, 2005. No new matter has been added. It is submitted that the application, is in condition for allowance, or alternatively is in better form for consideration on appeal. By virtue of this amendment, claims 1-26 are pending. Reconsideration and further examination of the pending claims in view of the following remarks is respectfully requested. In the Office Action, the Examiner:

- Rejected claims 1, 3-4, 6-11, 13-14, 16-19, 21-22, and 24-25 under 35 U.S.C. §103(a) as being unpatentable over McGarvey (U.S. Published Patent Application No. 2003/0028773) in view of publication "Cryptography and Data security" Chapter 24.4 published by Denning in June 1982; and
- Rejected claims 2, 5, 12, 15, 20, and 23 under 35 U.S.C. §103(a) as being unpatentable over McGarvey (U.S. Published Patent Application No. 2003/0028773) in view of publication "Cryptography and Data security" Chapter 24.4 published by Denning in June 1982 and in further view of Lincoln (U.S. Patent No. 6,820,201).

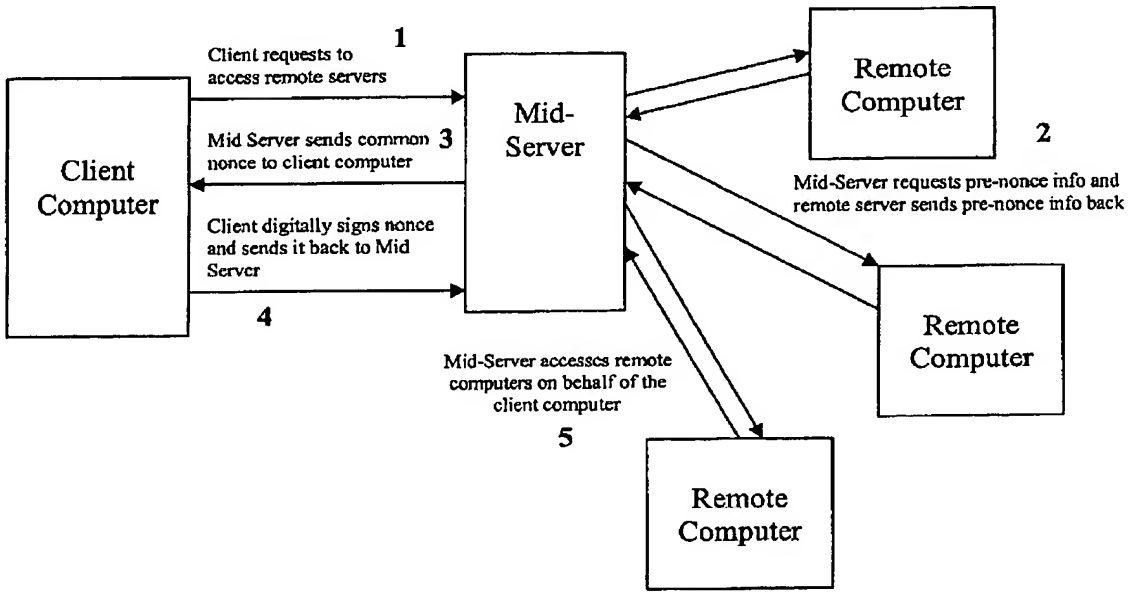
Overview of the Present Invention

The present invention provides a system and method for allowing access to data or processing on a remote computer. Data stored on the remote computers is often private or unavailable to the general public. In order to control access to that data, a user authentication system must be implemented. Various user authentication systems exist in the prior art which are based on the identity of a user's account or a computer requesting the information.

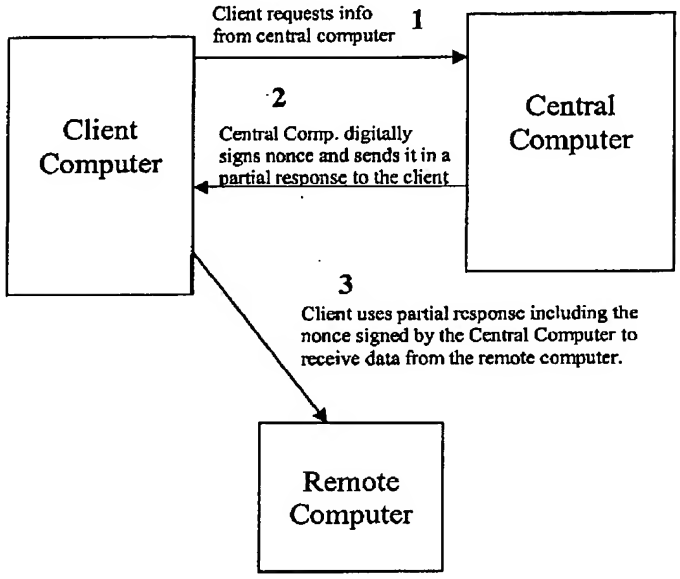
To overcome the problems in the prior art, the present invention, as recited for the

claims, transmits, by a central computer, a partial response to the client computer. The partial response comprises at least a nonce value and a representation of information to be displayed on the client computer. The nonce value is digitally signed by the central computer and is used to authorize a limited number of direct accesses to data on a remote computer and without using the central computer.

To assist in describing the technical differences between McGarvey and the present invention the following two diagrams are included. Starting with McGarvey, the following diagram illustrates how the McGarvey reference issues a nonce common to all remote computers from a mid-server to a client computer. The client computer then digitally signs the common nonce and sends the digitally signed common nonce back to the mid-server. The mid-server then uses this nonce to access the remote computes on behalf of the client computer. See McGarvey, for example, at FIGs. 1A, 1B, 4, and 6; col. 3 paragraphs 34 and 36; and col. 5 paragraph 51:



In contrast, the following diagram illustrates how the presently claimed invention uses a nonce unique to a remote computer and is digitally signed by a central computer. See, for example, the Specification as originally file at FIGs. 1 and 7 and at page 8, lines 20-28; page16, lines 1-7, 9-15, and 17-28; and page 17, lines 1-9:



One advantage of the presently claim invention is that the client computer has direct access to the remote computer to retrieve requested data. The present invention does not use an intermediary (middle server) to retrieve the requested data as taught by McGarvey. Direct access allows for quicker retrieval of the requested data because the client computer does not have to wait for an intermediary to obtain the data and transmit it back to the client computer. The intermediary may be busy performing other tasks and might not be able to retrieve the requested data immediately.

As can be seen from the above diagrams, McGarvey does not teach, suggest, or anticipate "accepting a request for data from a client computer; and transmitting, by a central computer, a partial response to the client computer, wherein the partial response comprises at least a nonce value and a representation of information to be displayed on the client computer, and wherein the nonce value is digitally signed by the central computer and is used to authorize a limited number of accesses to data on a remote computer, without using the central computer", as recited for independent claims 1, 11, and 19 and similarly for independent claims 4, 9, 14, 17, and 25.

Rejection under 35 U.S.C. §103(a) McGarvey and Denning.

Referring to claims 1, 14, 17, 19, and 25, the Examiner at page 3 of the office action states that McGarvey teaches *"accepting a request for data from a client computer"*. First of all, the Applicants would like to point out that the claim limitation of "*accepting a request for data from a client computer*" recites differently for claims 1 and 19 than for claim 14. For example, claims 1 and 19 recite "accepting, by a central computer, a request for data from a client computer" and claim recites "accepting a request for a data item from a client computer, wherein the request contains a nonce value, wherein the nonce value is digitally signed with a digital signature by a central computer". The Examiner gives no weight to "wherein the request contains a nonce value, wherein the nonce value is digitally signed with a digital signature by a central computer", which further modifies the claim element of "accepting a request for a data item from a client computer" as recited for claim 14.

Furthermore, the presently claim invention completely eliminates steps 4 and 5 in the above illustration of McGarvey. In other words, the present invention eliminates the

need for a client to digitally sign a nonce, send the nonce back to a mid-sever, and have the mid-server access remote computers on behalf of the client.

The Examiner cites FIG. 1A and in particular the pre-nonce request of McGarvey as support for the above rejection. However, careful reading of the preamble of claim 1 recites that the method of claim 1 is being performed on a central computer. The same central computer that transmits a partial response to the client computer. The pre-nonce request of McGarvey is transmitted from the middle-tier server 14 to the server 20, which contains data to be accessed. Therefore, the Examiner is incorrectly implying that the server 20 (i.e., the remote computer) receiving a pre-nonce request from the middle tier server 14 is the same as the central computer of the present invention accepting a request from a client computer. Accordingly, the present invention as recited for claims 1 and 19 distinguish over McGarvey for at least these reasons.

Turning now to claim 14, a careful reading of claim 14 recites that the request is being accepted at the remote computer. In other words, the computer comprising the data to be accessed accepts the request. For example, claim 14 recites "a request receiver for accepting a request for a data item from a client computer, wherein the request contains a nonce value, wherein the nonce value is digitally signed with a digital signature by a central computer". As stated above, the Examiner improperly ignored the claim element of "wherein the request contains a nonce value, wherein the nonce value is digitally signed with a digital signature by a central computer". The Examiner improperly rejects claim 14 under the same rationale as claim 1 even though each claims includes different claim elements. For example, claim 1 is directed towards a central computer and claim 14 is directed towards a remote computer comprising data requested by the client computer. . The acceptance in claim 1 is occurring at the central computer and the acceptance in claim 14 is occurring at the remote computer. The pre-nonce request

of McGarvey does not include a nonce value and clearly does not include a digital signature. See McGarvey at paragraph 34. Accordingly, the present invention as recited for claim 14 distinguishes over McGarvey for at least these reasons.

With respect to claims 17 and 25, a careful reading of claims 17 and 25 recites that these claims do not include the claim element "*accepting a request for data from a client computer*". In fact claims 17 and 25 include a claim element directed towards "...a partial response from a first computer, wherein the partial response comprises at least a nonce value, a specification of a remote computer, and a representation of information to be displayed on a client computer accepting the partial response, wherein the nonce value is digitally signed with a digital signature by the first computer". The Applicants would like to point out that a response is different than a request. Accordingly, the present invention as recited for claims 17 and 25 distinguish over McGarvey for at least these reasons.

The Examiner also concluded on page 3 of the present Office Action that McGarvey teaches "*transmitting from a central computer a partial response to the client computer, wherein the partial response comprises at leas (Sic) a nonce value...*" The Examiner goes on to state that this claim element is met by "sending a nonce from the server 14 to client 10 (Fig. 1A). The limitation 'the nonce value is digitally signed by the central computer and is used to authorize a limited number of accesses' is met by signed nonce (see Fig 1A and abstract). The signed nonce is sent from the remote computer to the middle-tier server, which meets the limitation of the instant claims, because client sends the signed nonce to receive a data from the server. The server 14 in Fig. 1 acts as a client and the remote computer (10) meets the server recited in the instant claims."

First of all, the Applicants would like to point out that claim 14 does not include the

claim element *"transmitting from a central computer a partial response to the client computer, wherein the partial response comprises leas (Sic) a nonce value..."*. In fact, claim 14 does not even include the word "transmit".

Regarding claims 1 and 19, a careful reading of the preamble would have revealed that the method is performed on a central computer. The Examiner is comparing the central computer of claims 1 and 19, which accepts a request for data from a client computer and transmits a partial response to the client computer, with the client computer 10 of McGarvey. In particular, the Examiner states that "*transmitting from a central computer a partial response to the client computer, wherein the partial response comprises at leas (Sic) a nonce value...*" is met by sending a nonce from the server 14 to client 10 (Fig. 1A). Therefore, the Examiner is implying that the middle tier server 14 is the central computer as recited for claims 1 and 19. However, the Examiner goes on to contradict this implication by stating that "the server 14 in FIG. 1 acts as a client and the remote computer (10) meets the server recited in the instant claims". Respectfully, the Examiner must rectify these contradicting assertions. If the Examiner is comparing the middle tier server 14 of McGarvey to the central computer of claims 1 and 19, then it must logically follow that claims 1 and 19 distinguish over McGarvey because the server 14 in McGarvey does not digitally sign the nonce.

Regarding the comparison of the client computer 10 and middle-tier server 14 of McGarvey to the central computer and client computer, respectively, of claims 1 and 19, the client computer 10 does not accept requests for data from a client computer, as does the central computer as recited for claims 1 and 19. Furthermore, the Examiner failed to give weight to the claim element of "wherein the partial response comprises at least...a representation of information to be displayed on the client computer". Therefore, when the Examiner compares the client computer 10 and middle-tier server

14 of McGarvey with the central computer and client computer, respectively, of claims 1 and 19, the client computer 10 of McGarvey needs to provide a partial response to the middle-tier server 14 that includes a nonce value, which is digitally signed, and a representation of information to be displayed on the middle-tier server. Nowhere does McGarvey teach "transmitting a partial response, from a central computer, to the client computer, wherein the partial response comprises at least a nonce value and a representation of information to be displayed on the client computer, wherein the nonce value is digitally signed with a digital signature by the central computer". Accordingly, claims 1 and 19 of the present invention distinguish over McGarvey for at least these reasons.

Turning now to claims 17 and 25, a rudimentary reading of claims 17 and 25 would have revealed that claims 17 and 25 do not include the claim element "*transmitting from a central computer a partial response to the client computer, wherein the partial response comprises at leas (Sic) a nonce value...*" Claims 17 and 25 recite "...transmitting a service request to the remote computer, wherein the service request comprises the nonce value". For the reasons stated above, claims 17 and 25 distinguish over McGarvey for at least these reasons.

The Examiner correctly states on page 3 of the present Office Action that McGarvey does not teach "the direct access to data on remote computer without using the central computer". The Examiner goes on to combine McGarvey with Denning stating that "Denning provides a description of Kerberos system (see pages 3-5 and Fig. on page 3). Denning explicitly shows that the client accesses the date [from] the server without using the central computer after receiving the encrypted Kerberos ticket (i.e. nonce). Therefore, at the time the invention was made, it would have been obvious to one of ordinary skill in the art to modify the system of McGarvey using the signed nonces for

accessing the data by the remote computer through the middle-tier server by adding the direct access functionality as taught in Denning. One of ordinary skill in the art would have been motivated to modify the system of McGarvey using the signed nonces for accessing the data by the remote computer through the middle-tier server by adding the direct access functionality as taught by Denning for authenticating the client to the data server (see page 5, "requesting a service").

Moreover, the Federal Circuit has consistently held that when a §103 rejection is based upon a modification of a reference that destroys the intent, purpose or function of the invention disclosed in the reference, such a proposed modification is not proper and the *prima facie* case of obviousness cannot be properly made. See In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Here the intent, purpose, and function of McGarvey taken alone or in view of Denning is a system where a client computer digitally signs a nonce. A middle tier server generates a common nonce and sends it to the client computer. At this point, the common nonce is not digitally signed. When the client computer receives the nonce, it digitally signs it and transmits it back to the middle tier server. A middle-tier server, and not the client, accesses the remote computer using the digitally signed nonce. Because Denning teaches that a client first requests a ticket from a Kerberos machine, then requests a server ticket from a TGS, and then the client sends a request to a remote computer for data access, this combination as suggested by the Examiner destroys the intent and purpose of McGarvey's intent of having a client computer use a middle-server access requested data. The entire purpose of McGarvey is to have a middle-tier server impersonate the client. Denning destroys this intent by having the client access the remote computer. In contrast, the intent of the present invention is transmitting a partial response including a nonce that has been digitally signed by a central computer and is

used to authorize a limited number of direct accesses to data on a remote computer without using the central computer. In one embodiment the partial response also includes a representation of information to be displayed on the client computer. Accordingly, the combination of McGarvey and Denning results in an inoperable system. Therefore, the Examiner's case of *"Prima Facie Obviousness"* should be withdrawn.

Furthermore, the Federal Circuit stated in McGinley v. Franklin Sports, Inc., (Fed Cir 2001) that if references taken in combination would produce a "seemingly inoperative device," such references teach away from the combination and thus cannot serve as predicates for a prima facie case of obviousness. In re Sponnoble, 405 F.2d 578, 587, 160 USPQ 237, 244 (CCPA 1969) (references teach away from combination if combination produces seemingly inoperative device); see also In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984) (inoperable modification teaches away). Here, McGarvey teaches that a middle-tier server impersonates a client computer for accessing data on a remote computer and Denning teaches an incompatible system where the client requests two types of tickets from two different sources and then accesses data on a remote computer. Therefore, the combination of McGarvey with Denning to produce the presently claimed invention where a central computer transmits a partial response including a nonce that is digitally signed by a central computer and a representation of information to be displayed on the client computer, would produce an inoperable device. Accordingly, the combination of McGarvey and Denning is improper.

Further, when there is no suggestion or teaching in the prior art for "transmitting, from a central computer, a partial response to the client computer, wherein the partial response comprises at least a nonce value and a representation of information to be displayed on

the client computer, and wherein the nonce value is digitally signed by the central computer and is used to authorize a limited number of direct accesses to data on a remote computer, without using the central computer" the suggestion cannot come from the Applicants' own specification. The Federal Circuit has repeatedly warned against using the Applicant's disclosure as a blueprint to reconstruct the claimed invention out of isolated teachings of the prior art. See MPEP §2143 and Grain Processing Corp. v. American Maize-Products, 840 F.2d 902, 907, 5 USPQ2d 1788 1792 (Fed. Cir. 1988) and In re Fitch, 972 F.2d 160, 12 USPQ2d 1780, 1783-84 (Fed. Cir. 1992).

For the foregoing reasons, independent claims 1, 14, 17, 19, and 25 distinguish over McGarvey alone and/or in combination with Denning. Claims 3, 16, 18, 21, and 26 depend from claims 1, 14, 17, 19, and 25 respectively. Since dependent claims contain all the limitations of the independent claims, claims 3, 16, 18, 21, and 26 distinguish over McGarvey alone and/or in combination with Denning, as well, and the Examiner's rejection should be withdrawn.

Referring to claims 4, 9, and 22, the Examiner at page 4 of the office action states that McGarvey teaches that a "*request contains a nonce value which has been digitally signed with a digital signature*". McGarvey is silent on the element of"accepting a request for a data item from a client computer, wherein the request contains a nonce value which has been digitally signed with a digital signature by a central computer". The arguments and remarks made above with respect to claims 1 and 19 and in particular the remarks pertaining to the comparison of the client computer of middle-tier server of McGarvey with the client computer and central computer of the presently claimed invention are also applicable here and for the sake of brevity are not repeated.

The Examiner recites 35 U.S.C. §103 and the statute expressly The Statute expressly

requires that obviousness or non-obviousness be determined for the claimed subject matter "as a whole," and the key to proper determination of the differences between the prior art and the present invention is giving full recognition to the invention "as a whole." For the reasons stated above, McGarvey and/or Denning does not teach "responding to the request by returning the data item directly to the client computer without using an intermediary central computer if the nonce value is valid and has been previously used fewer than a limited number of times" as recited for claims 4, 9, and 22. Nowhere does McGarvey alone and/or in combination with Denning or Lincoln teach, anticipate, or suggest this claim element. In fact, McGarvey explicitly teaches using an intermediary computer for accessing data on a remote server. Accordingly, claims 4, 9, and 22 distinguish over McGarvey for at least these reasons.

Moreover, Applicants would like to point out that claims 9, 17, and 25 further recite that the partial response includes "a specification of a remote computer". Accordingly, the Examiner has failed to show a *prima facie* case of obviousness with respect to claims 9, 17, and as required under 35 U.S.C. § 103(a). Therefore, the rejection of claims 9, 17, and 25 under 35 U.S.C. § 103(a) was improper and the rejection should be withdrawn.

For the foregoing reasons, independent claims 4, 9, and 22 distinguish over McGarvey alone and/or in combination with Denning. Claims 5-8, 10, and 24 depend from claims 4, 9, and 22 respectively. Since dependent claims contain all the limitations of the independent claims, claims 5-8, 10, and 24 distinguish over McGarvey, as well, and the Examiner's rejection should be withdrawn.

Turning now to claim 11, the remarks and arguments made above with respect to claims 1 and 19 are also applicable in support of the allowability of claim 11. These remarks and arguments will not be repeated here. The Applicants suggest that the

rejection under 35 U.S.C. § 103(a) has been overcome and should be withdrawn.

Rejection under 35 U.S.C. §103(a) McGarvey, Denning, and Lincoln

As noted above, the Examiner rejected claims 2, 5, 12, 15, 20, and 23 under 35 U.S.C. §103(a) as being unpatentable over McGarvey (U.S. Published Patent Application No. 2003/0028773) in view of publication "Cryptography and Data security" Chapter 24.4 published by Denning in June 1982 and in further view of Lincoln (U.S. Patent No. 6,820,201). With respect to McGarvey and Denning, the above arguments regarding independent claims 1, 4, 11, 14, 19, and 22 are applicable here and will not be repeated. However, the Applicants repeat the arguments made in the previous Response With Amendment regarding claims 4, 14, and 22 made with respect to McGarvey below.

Nowhere does McGarvey teach, anticipate, or suggest "accepting a request for a data item from a client computer, wherein the request contains a nonce value which has been digitally signed with a digital signature by a central computer", as recited for claim 4 and similarly for claims 14 and 22. McGarvey teaches accepting a request at a backend server from a mid-server. The request in McGarvey has a common nonce for a plurality of servers that was digitally singed by the client. Denning does not teach directly accessing a data server by a client computer using a nonce that has been digitally signed by a central computer. In fact, the combination of McGarvey and Denning is improper as stated above. Accordingly, the present invention distinguishes over McGarvey and/or in combination with Denning for at least this reason as well.

Regarding claims 2, 5, 12, 15, 20, and 23, the Examiner on page 5 of the Office Action correctly states that McGarvey and Denning do not disclose "*charging an entity upon use of the nonce*". However, the Examiner goes on to combine McGarvey and Denning

and Lincoln to overcome the deficiencies of these references.[1] The Examiner recites 35 U.S.C. §103. The Statute expressly requires that obviousness or non-obviousness be determined for the claimed subject matter "as a whole," and the key to proper determination of the differences between the prior art and the present invention is giving full recognition to the invention "as a whole."

The McGarvey reference taken alone and/or in view of Denning and/or in view of Lincoln simply does not suggest, teach or disclose the patentably distinct claim elements of: "transmitting, by a central computer, a partial response to the client computer, wherein the partial response comprises at least a nonce value and a representation of information to be displayed on the client computer, and wherein the nonce value is digitally signed by the central computer ..."; and "accepting a request for a data item from a client computer, wherein the request contains a nonce value which has been digitally signed with a digital signature by a central computer". McGarvey taken alone and/or in view of Denning and/or in view of Lincoln also does not teach, anticipate, or suggest "wherein the nonce value is ... used to authorize a limited number of direct accesses to data on a remote computer, without using the central computer. These limitations taken "as a whole" in independent claims 1, 4, 11, 14, 19, and 22 are not present in McGarvey taken alone and/or in view of Denning and/or in view of Lincoln. Accordingly, claims 1, 4, 11, 14, 19, and 22 distinguish over McGarvey alone and/or in combination with Lincoln.

Further, when there is no suggestion or teaching in the prior art for "a partial response to the client computer, wherein the partial response comprises at least a nonce value and a representation of information to be displayed on the client computer"; "wherein the nonce value is digitally signed by the central computer"; and "wherein the partial

[1] Applicant makes no statement whether such combination is even proper.

response comprises at least a nonce value, a specification of a remote computer, and a representation of information to be displayed on the client computer" the suggestion cannot come from the Applicants' own specification. The Federal Circuit has repeatedly warned against using the Applicant's disclosure as a blueprint to reconstruct the claimed invention out of isolated teachings of the prior art. See MPEP §2143 and Grain Processing Corp. v. American Maize-Products, 840 F.2d 902, 907, 5 USPQ2d 1788 1792 (Fed. Cir. 1988) and In re Fitch, 972 F.2d 160, 12 USPQ2d 1780, 1783-84 (Fed. Cir. 1992).

For the foregoing reasons, independent claims 1, 4, 11, 14, 19, and 22 as amended distinguish over McGarvey alone and/or in combination with Denning and/or in combination with Lincoln. Claims 2, 5, 12, 15, 20, and 23 depend from claims 1, 4, 11, 14, 19, and 22 respectively. Since dependent claims contain all the limitations of the independent claims, claims 2, 5, 12, 15, 20, and 23 distinguish over McGarvey alone and/or in combination with Denning and/or in combination with Lincoln, as well, and the Examiner's rejection should be withdrawn.

CONCLUSIONS

Applicant acknowledges the continuing duty of candor and good faith to the disclose information known to be material to the examination of this application. In accordance with 37 CFR § 1.56, all such information is dutifully made of record.

Applicant respectfully submits that all of the grounds for rejection stated in the Examiner's Office Action have been overcome, and that all claims in the application are

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allowable. No new matter has been added. It is believed that the application is now in condition for allowance, which allowance is respectfully requested.

PLEASE, if for any reason the Examiner finds the application other than in condition for allowance, the Examiner is invited to call either of the undersigned attorneys at (561) 989-9811 should the Examiner believe a telephone interview would advance the prosecution of the application.

Respectfully submitted,

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